PATENT
0600-1054

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Régis HOUZE et al. Conf. 6555

Application No. 10/562,819 Group 1793

Filed December 30, 2005 Examiner Shuangyi Abu Ali

CATIONIC LIQUID STARCHY COMPOSITION AND USES THEREOF

DECLARATION UNDER 37 CFR 1.132

Assistant Commissioner for Patents
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Sir:

I, Nicolas LEROY, am a citizen of France and reside at 5 rue du General De Gaulle, in La Gorgue F-59253 France. I have a PhD. in paper chemistry. I joined Roquette Frères 4 years ago and works in the "Department of Paper and Board applications" as a laboratory manager.

I am familiar with the present application and the Official Action mailed March 3, 2011, which rejects the claims over DU BOURG et al. WO 01/96403 ("DU BOURG") in light of its U.S. equivalent: US 2004/0112559. DU BOURG, however, does not suggest the unexpected superior protective or stability of a sizing agent obtained by the claimed method, which utilizes a cationic starchy composition of specific viscosity, dry matter content (DM), nitrogen level and pH.

In fact, the present specification confirms that the viscosities measured for the DU BOURG composition according to the A test do not suggest the claimed viscosities measured according the claimed T test. At page 6, line 31 to page 7, line 14, the present specification states that DU BOURG discloses a viscosity of less than 1600mPa.s for a DM adjusted to 20% (i.e., the A test), but the viscosity measured for a DM adjusted to 10% (i.e., the T test) would have been (much) less than 200 mPa.s. Conversely, a viscosity value of 275 mPa.s measured at 10 % DM corresponds to or is equivalent to a viscosity of 2400 mPa.s measured at 20 % DM. Thus, based on viscosity alone, DU BOURG does not suggest the claimed cationic starchy composition that achieves the superior protective or stability of a sizing agent.

To demonstrate that DU BOURG does not achieve superior property, my team has carried out experiments, under my supervision, that compare the mean particle size for several compositions at T0 and T24. The compositions were prepared in a manner consistent with the experiments carried out in the present specification. The compositions are:

(1) A composition (comparative) with 3 % of DM, a total nitrogen level of 1.2%wt. and a low viscosity (less than 275 mPas as claimed, but within the range of DU BOURG),

(2) A composition (comparative) with 7 % of DM and a low viscosity (less than 275 mPas as claimed, but within the range of DU BOURG),

(3) A composition (comparative) with 3 % DM and both a high nitrogen level (total nitrogen level of 1.5%, outside of the claimed range) and a low viscosity, i.e., composition T1 (Composition 2 of DU BOURG as carried out in the specification),

(4) A composition (comparative) with 7 % of DM and both a high nitrogen level (total nitrogen level of 1.5%, outside of the claimed range) and a low viscosity, i.e., composition T1 (Composition 2 of DU BOURG as carried out in the specification),

(5) A composition (according to the invention) with 3 % DM, a total nitrogen level of 1.2%wt. and a viscosity of 325 mPa.s according to the method disclosed in the patent application, and

(6) A composition (according to the invention) with 7 % DM, a total nitrogen level of 1.2%wt. and a viscosity of 325 mPa.s according to the method disclosed in the patent application.

The data is summarized in the table below and compositions suggested by Du Bourg (Compositions (1) to (4)) compared to data obtained by the claimed invention (Compositions A, B, (5) and (6)) :

	T0	T24
Composition (1)	2.0	11.9
Composition (2)	1.9	12.5
Composition (3)	2.1	13.6
Composition (4)	1.8	12.1
Composition (A)	1.8	8.2
Composition (B)	1.5	7.5
Composition (5)	2.1	9.7
Composition (6)	1.7	7.6

As can be seen from the data above, Compositions (A), (B), (5) and (6), usable according the invention, have far greater stability than the other compositions, which are suggested by DU BOURG (compositions (1) to (4)). Thus, the stability is unexpected and superior to the teachings of DU BOURG.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true ; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date 12th of September 2011

Nicolas LEROY PhD